



Chapter Assessment

Chapter 6, Form A, page 1

Write the letter that best answers the question or completes the statement.

B

1. Which inequality corresponds to the statement " b is less than or equal to 1"?

a. $b \geq 1$

b. $b \leq 1$

c. $b > 1$

d. $b < 1$

D

2. Which inequality is true?

a. $0 \leq -7$

b. $-5 > 1$

c. $1.5 < 1.2$

d. $3.90 > 3.09$

B

3. Which sentence represents $n < 4$ on the number line.

a. Draw a shaded circle at 4. Shade the numbers to the right of 4.

b. Draw an unshaded circle at 4. Shade the numbers to the left of 4.

c. Draw an unshaded circle at 4. Shade the numbers to the right of 4.

d. Draw a shaded circle at 4. Shade the numbers to the left of 4.

C

4. Burt wants to buy a pair of shoes that cost \$49.95. He also wants to buy a T-shirt, but he cannot spend more than \$60. Which inequality models this situation?

a. $49.95 - x > 60$

b. $49.95 + x \geq 60$

c. $x + 49.95 \leq 60$

d. $60 + x \geq 49.95$

D

5. Solve $|x - 3.45| = 0.25$.

a. $x = 3$ and $x = 3.7$

c. $x = 3.2$

b. $x = -3$ and $x = -3.7$

d. $x = 3.2$ and $x = 3.7$

A

6. Solve $\frac{m}{10} - 16 < 40$.

a. $m < 560$

b. $m > 560$

c. $m < 240$

d. $m > 240$

A

7. Solve $\frac{-8p}{-8} < \frac{-56}{-8}$.

a. $p > 7$

b. $p < 7$

* Danger! *

c. $p > -7$

d. $p < -7$

B

8. Solve $10 \leq 8 - x$.

a. $x \leq 2$

b. $x \leq -2$

c. $x \geq 2$

d. $x \geq -2$

A

9. Solve $12 + 5x > 7x - 12$.

a. $x < 12$

b. $x < -12$

c. $x > 12$

d. $x < -12$

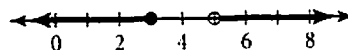
$$\begin{array}{r} 12 > 2x - 12 \\ +12 \quad +12 \\ \hline 24 > 2x \\ \hline 12 > x \end{array}$$



Chapter Assessment

Chapter 6, Form A, page 2

C 10. Which inequality represents the graph?



- a. $-2 < x < 1$ b. $4 \leq x$ c. $x \leq 3$ or $x > 5$ d. $x > 1$

D 11. Solve $-5 \leq 2x - 1 \leq 3$. $-4 \leq 2x \leq 4$ $-2 \leq x \leq 2$

- a. $-3 \leq x \leq 2$ b. $x \leq -2$ or $x \geq 2$ c. $x \leq -3$ or $x \geq 2$ d. $-2 \leq x \leq 2$

B 12. A company is producing gauges for a contractor. The overhead charges are \$500. The production costs need to be kept under \$1000. How many gauges can the company produce at \$10 each and keep the costs under \$1000?

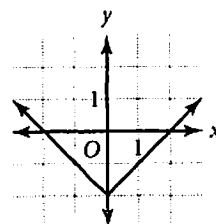
$$500 + 10x < 1000$$

$$10x < 500$$

$$x < 50$$

- a. under 100 b. under 50 c. over 100 d. over 50

D 13. Which equation represents the graph?



- a. $y = |x + 2|$ b. $y = |x - 2|$
c. $y = |x| + 2$ d. $y = |x| - 2$

A 14. What is the domain and range of the function $y = -|x|$?

* Not necessary.

- a. Domain: all real numbers; range: all negative numbers and 0
b. Domain: all negative numbers and 0; range: all real numbers
c. Domain: all real numbers; range: all positive numbers and 0
d. Domain: all positive numbers and 0; range: all real numbers

B 15. Evaluate $|-20 + 20|$. = $|-40|$

- a. -40 b. 40 c. 0 d. not here

C 16. Solve $|x + 1| = 5$. $x + 1 = 5 \rightarrow x = 4$

- a. $x = 6$ and $x = -4$ $x + 1 = -5 \rightarrow x = -6$
b. $x = 6$ and $x = 4$
c. $x = -6$ and $x = 4$ d. $x = -6$ and $x = -4$

C 17. Solve $|x - 6| \geq 14$. $x - 6 \geq 14$ OR $x - 6 \leq -14$
 $x \geq 20$ OR $x \leq -8$

- a. $-8 \leq x \leq 20$ b. $x \geq 20$ or $x \leq -8$ c. $x \geq 20$ or $x \leq -8$ d. not given

C 18. Solve $|x + 8| \geq 1$. $x + 8 \geq 1$ OR $x + 8 \leq -1$
 $x \geq -7$ OR $x \leq -9$

- a. $-9 < x < -7$ b. $-9 > x > -7$ c. $7 < x < 8$ d. no solution





Quick Warm-Up: Assessing Prior Knowledge

7.1 Graphing Systems of Equations

Solve for y .

1. $4x - y = 7$ $y = 4x - 7$

2. $x + 2y = 8$ $y = -\frac{1}{2}x + 4$

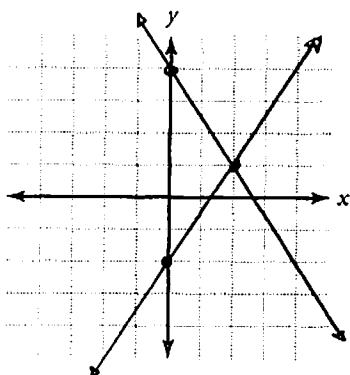


Lesson Quiz

7.1 Graphing Systems of Equations

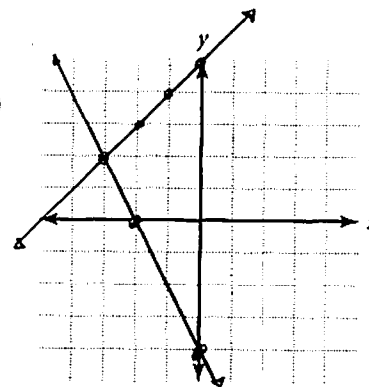
Solve by graphing. Check by substituting the solutions into the original equations.

1. $\begin{cases} 3x + 2y = 8 \\ 6x - 4y = 8 \end{cases}$



(2, 1)

2. $\begin{cases} 2x + y = -4 \\ 2y = 2x + 10 \end{cases}$

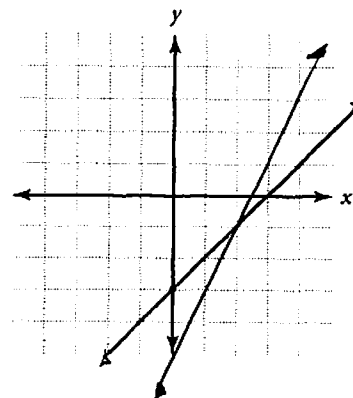


(-3, 2)

3. Algebraically determine whether the point $(2, -1)$ is a solution to the system of equations below. Then check by graphing the system on the grid provided.

$\begin{cases} y = x - 3 & -1 = 2 - 3 \quad \checkmark \\ y = 2x - 5 & -1 = 2(2) - 5 \quad \checkmark \end{cases}$

Yes!



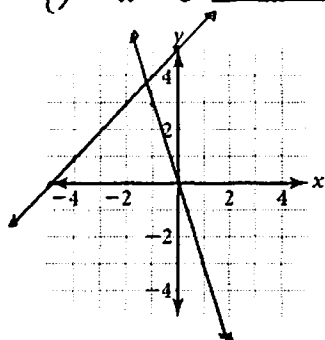


Practice Masters Level B

7.2 The Substitution Method

Graph each system and estimate the solution. Then use the substitution method to get an exact solution.

1. $\begin{cases} y = -3x \\ y - x = 5 \end{cases}$ $\left(-\frac{5}{4}, \frac{15}{4}\right)$



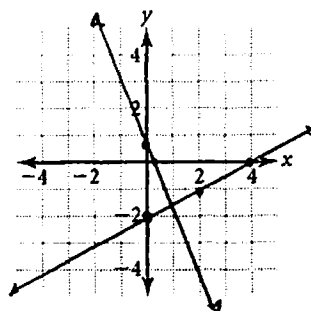
$$-3x - x = 5$$

$$-4x = 5$$

$$x = -\frac{5}{4}$$

$$y = -3\left(-\frac{5}{4}\right) = \frac{15}{4}$$

2. $\begin{cases} x - 2y = 4 \\ 8y + 24x = 5 \end{cases}$ $\left(\frac{3}{4}, -\frac{13}{8}\right)$



$$x = 2y + 4$$

$$8y + 24(2y + 4) = 5$$

$$8y + 48y + 96 = 5$$

$$56y = -91$$

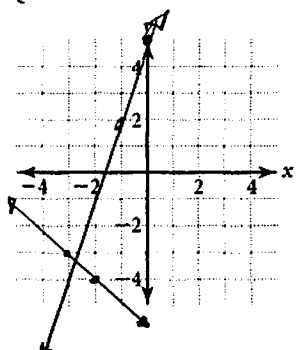
$$y = \frac{-91}{56} = -\frac{13}{8}$$

$$x = 2\left(-\frac{13}{8}\right) + 4$$

$$= -\frac{13}{4} + \frac{16}{4}$$

$$= \frac{3}{4}$$

3. $\begin{cases} 2y - 6x = 10 \\ y = -x - 6 \end{cases}$ $\left(-\frac{11}{4}, -\frac{13}{4}\right)$



$$2(-x - 6) - 6x = 10$$

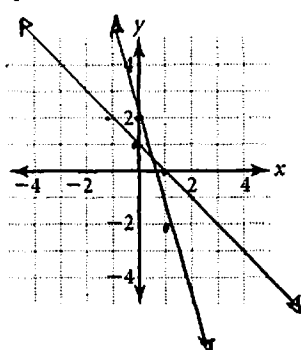
$$-2x - 12 - 6x = 10$$

$$-8x = 22$$

$$x = -\frac{11}{4}$$

$$y = \frac{11}{4} - 6 = \frac{11}{4} - \frac{24}{4} = -\frac{13}{4}$$

4. $\begin{cases} x + y = 1 \\ y + 4x = 2 \end{cases}$ $\left(\frac{1}{3}, \frac{2}{3}\right)$



$$y = 1 - x$$

$$1 - x + 4x = 2$$

$$3x = 1$$

$$x = \frac{1}{3}$$

$$\frac{1}{3} + y = 1$$

$$y = \frac{2}{3}$$

Solve by using substitution, and check your answers.

5. $\begin{cases} 4x + 16y = 2 \\ 2x = 4y \end{cases}$ $\left(\frac{1}{6}, \frac{1}{12}\right)$

6. $\begin{cases} 2x + 3y = 24 \\ y + 7x = 46 \end{cases}$ $(6, 4)$

7. $\begin{cases} 8y - x = -4 \\ 5x - y = 59 \end{cases}$ $(12, 1)$

8. $\begin{cases} 3x - 4y = -1 \\ 11y + 2 = 13x \end{cases}$ $(1, 1)$

9. $\begin{cases} 6x + 3y = -2 \\ 9y + 10x = -2 \end{cases}$ $\left(-\frac{1}{2}, \frac{1}{3}\right)$

10. $\begin{cases} 7x - y = 10 \\ x = 2y - 6 \end{cases}$ $(2, 4)$

11. $\begin{cases} 10x - 14y = 62 \\ -7 - y = -2x \end{cases}$ $(2, -3)$

12. $\begin{cases} y - 6x = 22 \\ 4y + 17 = -11x \end{cases}$ $(-3, 4)$

13. $\begin{cases} 0.5x - 2y = 1 \\ -3y + x = 4 \end{cases}$ $(10, 2)$

14. $\begin{cases} 9x + 9y = 9 \\ 2y = 14x + 20 \end{cases}$ $\left(-\frac{9}{8}, \frac{17}{8}\right)$

15. $\begin{cases} \frac{1}{3}y - x = \frac{1}{4} \\ 2y - 12x = -1 \end{cases}$ $\left(\frac{5}{12}, 2\right)$

16. $\begin{cases} 7y - 15x = 22 \\ 3x + 9y = 6 \end{cases}$ $(-1, 1)$